

# 3691

## Programmable Electronic Current Burden

■ The programmable electronic current burden **3691** is designed for efficient testing of current instrument transformers. When it is used with a type 2767 instrument transformer test set, the burden can be integrated in a computer controlled test system. The electronic current burden can replace traditional passive resistance and inductance types. With the wide programmable impedance range provided, most national and international standard burdens or specific customer burden values can be set.



### FEATURES AND BENEFITS

- ☑ Universal current burden for standard current ratings, freely adjustable power steps up to 75 VA,  $\cos \beta = 0.5$  to 1 at 50 and 60 Hz.
- ☑ A cost-effective solution, since a single electronic burden can replace most conventional passive burdens.
- ☑ The power range can be extended to 200 VA with additional passive burdens.
- ☑ Burden values can be retrieved from the stored IEC 60044 and ANSI C57.13 standard tables.
- ☑ Storage of nine individual burden settings ( $S_N$ ,  $I_N$ ,  $\cos \beta$ ), which can be retrieved as required.
- ☑ 1% accuracy (even with additional passive burden).
- ☑ Internal test set resistance, input cable and contact resistances are compensated by four-conductor measurement.
- ☑ The programmable electronic current burden can be used with different current transformer test set, i.e. Tettex types 2711/22, 2761 or from other suppliers.
- ☑ Simple use by interactive parameter entry.
- ☑ The burden can be fully integrated in an automatic measurement process via an optional interface.

### APPLICATIONS

The programmable electronic current burden Tettex 3691 is mostly used by:

- Manufacturer of Current Instrument Transformers
- Calibration Laboratories
- National Standards Laboratories
- On-Site Testing of High Voltage Current Instrument Transformers

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**TECHNICAL SPECIFICATIONS**

Rated power $S_N$	0; 1 to 75 VA
In increments of	0.01 VA
Power factor $\cos \beta$	0.5 to 1 ind.
In increments of	0.01
Rated current $I_N$	1 / 2 / 5 A
All values with factors of	1/1, 1/√3 for $I_N = 1/\sqrt{3}$ A: $S_N = \max. 40$ VA (at 200 % $I_N$ )
Operating range	1 to 200% $I_N$ up to max. burden voltage $U_{k-i} = 150$ V
Test voltage frequency	48 to 62 Hz
Error thresholds:	
- under reference conditions:	
Test current frequency	50 or 60 Hz
Resistance $\Delta R /  Z $	$\pm 1$ % *
Reactance $\Delta X /  Z $	$\pm 1$ % *
- under rated service conditions:	
Resistance $\Delta R /  Z $	$\pm 3$ % *
Reactance $\Delta X /  Z $	$\pm 3$ % *
- at 0 VA setting	$S < 0.05$ VA
Reference and rated range of use according to IEC 359 and operating instructions. Stated error limits also apply with additional burden.	
Line power	230 or 115 V, 50 or 60 Hz
Power consumption	Approx. 620 VA
Temperature range	+5 to +40 °C
Dimensions (W x H x D)	500 x 320 x 470 mm
Weight	Approx. 50 kg

\* Related to the corresponding impedance  $Z = R + iX$ ,  $|Z| = S_N/I_N^2$ . Excitation  $< 2\%$   $I_N$ : General error limit  $\pm 5$  %

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**SCOPE OF SUPPLY**

Programmable electronic current burden 3691 power cable.  
Please specify line voltage when ordering (230 V / 50 Hz or 110 V / 60 Hz).

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**ACCESSORIES AND OPTIONS**

3692	Remotely controlled additional passive current burden with automatic detection of possible burden range $S_N$ , $I_N$ and $\cos \beta$ by 3691. Expands the range to max. 200 VA.
	Rated power $S_N$ 75 to 200 VA
	Rated current $I_N$ 1 / 5 A
	All values with factors of          1/1, 1/√3
	Power factor $\cos \beta$ 0.5 to 1
	Test current frequency                50 and 60 Hz
3691 / 1	Interface (IEEE 488 GPIB) for remote control by external computer, incl. data cable. Disables standard RS – 232 interface.

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**INSTRUMENT TRANSFORMER TESTING EQUIPMENT**


2767

**Automatic Instrument Transformer Test Set**

Highly accurate test set for accuracy measurements of voltage and current instrument transformers according IEC61869, IEC60044, ANSI C57.13 and others.

3695

**Electronic Voltage Burden**

Programmable electronic voltage burden according IEC, ANSI or user defined values. Up to a rated power of 75 VA with 1% accuracy. Can be extended to 400 VA with an external voltage burden Tettex 3697.



3692

**Additional Current Burden**

Remotely controlled additional current burden  
Range expansion to max. 200 VA  
1% accuracy over the full range

3697

**Additional Voltage Burden**

Remotely controlled additional voltage burden.  
Range expansion to max. 400VA.



4860

**Standard Electronic Voltage Divider**

Electronic voltage divider used as a variable comparison standard (replacement of inductive nominal voltage transformers). Voltage Ranges from 1 kV to 800 kV or higher

4761 / 4764

**Current Comparators**

Electronically compensated current comparator with an accuracy of 10 ppm and 0.05 min. User settable ratios of 1 / 5 A to 1000 or 5000 A.

